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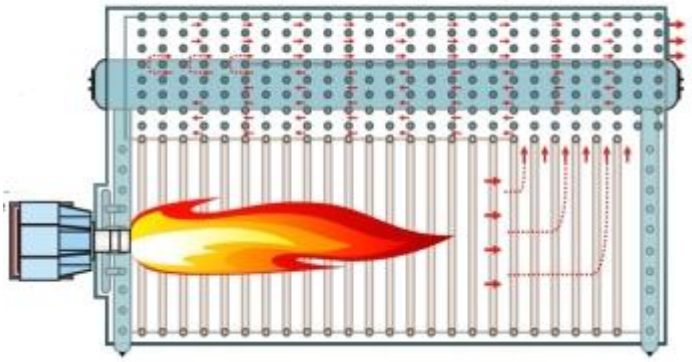
Industrial Gas Fired Steam Boiler

Overview

Industrial gas fired boilers are double-drum, horizontal, and chamber-fired D-shaped layout structures, with the furnace on the right and tube bundle convection on the left.The upper and lower drums are fixed on the chassis of the main body through movable supports in the middle of the lower pot and at both ends, and ensure that the boiler as a whole expands to both ends.

This product is widely used in large-scale projects, such as energy companies, petroleum/chemical industries, and large-scale manufacturing industries such as automobiles, wineries, food, paper, textiles, etc.

The smoke produced by the combustion of the furnace enters the ember chamber successively from the smoke outlet at the rear of the furnace,to the sparse staggered convection tube bundle area,to the front convection tube bundle area, and then turns from the left front of the boiler to enter the spiral finned tube economizer and condenser. Finally, it enters the chimney or is drawn into the chimney by the induced draft fan and discharged to the atmosphere.



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Boiler Main Body Technical Features

Membrane type structure
Whole membrane wall structure D-type arrangement

★Convection tubes of upper and lower drum form the convection heating surface and ensure the whole boiler expand towards

★The combustion chamber adopts narrow pitch membrane wall which has good gas tightness and reduce heat loss and improve boiler heat efficiency

★The rear part of convection tubes is rare sparse staggered structure while the front part is sequential structure

★The front and rear walls of boiler body adopt membrane type structure which highly

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improve the working life of front and rear wall,up to more than 20 years

★The sealing of both sides of membrane wall and drums adopt comb plate to avoid the reveal of condensate water and fuel gas caused by sealing with refractory concrete

Reliable Water Cycle

★The high temperature zone of the boiler body adopts forced circulation to ensure that the heating surface of each part can be reliably cooled and prevent vaporization.

Combustion Chamber

★ Since the combustion chamber adopts a full-membrane water-cooled wall structure and adopts micro-positive pressure combustion, there is no problem of stringing smoke,and the operating environment is pollution-free

Safety Devices

★The boiler is equipped with explosion-proof doors and flame detectors, so the operation is safe and reliable

Boiler Main Body Insulation

★High-quality aluminum silicate fiber is used, and Refractory cement insulation is used for heat preservation.The temperature of the boiler main body is controlled below 45° to effectively control heat loss

Manhole, Inspection Hole

★Manholes are arranged in the front and back of the upper and lower drums,and inspection doors are arranged in the rear of the boiler.

★Easy to open, convenient for users to repair and clean the inside and outside

Industrial Gas Fired Steam Boiler Control System

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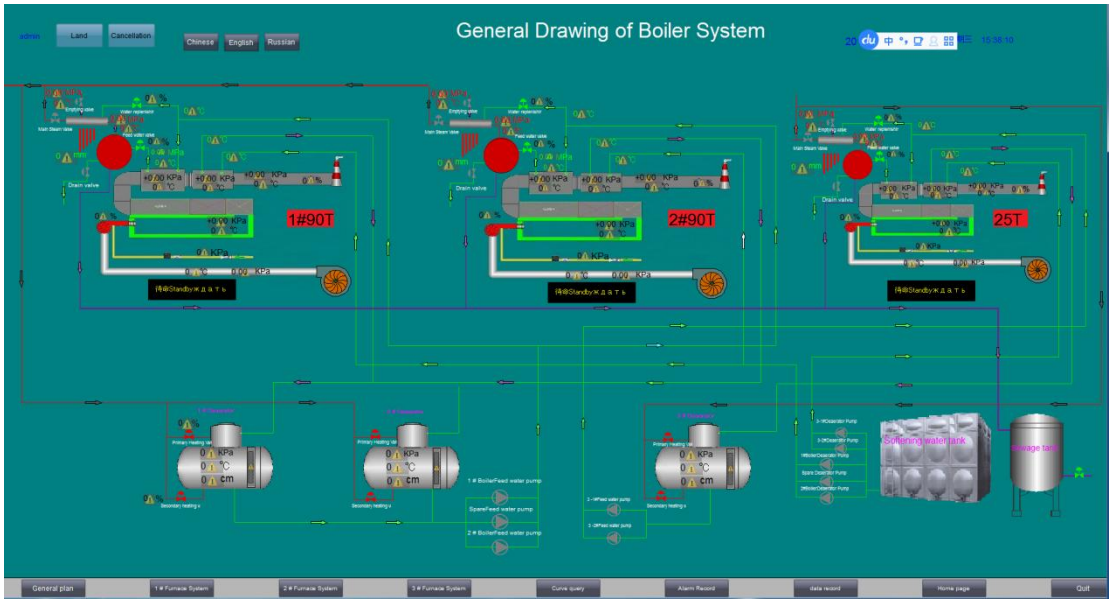

According to the customer's demand for steam capacity, temperature, pressure, and equipment configuration, the steam boiler control system is developed and designed to achieve the purpose of monitoring the parameters and status of the boiler and realizing the intelligence of boiler control.

1). Main Control: liquid level control of boiler, water tank， and oil tank; steam pressure control; boiler system pressure control; temperature control, etc. Manual/automatic control of burners, pump valves, and other equipment, master, and backup switching. Water pump start and delay shutdown, water pump running status detection, and burner interlock.
2). Anti-freezing Functions: Make the boiler run safely and stably at night when unattended, and make the system work in an energy-saving state to prevent the pipeline from freezing.
3). Self-inspection Functions of the control system: continuous inspection. To alarm and interlock protection when abnormal.
4). It collects, records, saves, and manages important information and data functions.

The Remote Instrument Valves used in the Control System Include temperature sensors, liquid level gauges, pressure transmitters, pressure controllers, flow meters, electric control valves, etc.

Auxiliary Equipment Features

1)Burner
We can equip with different burners according to boiler parameters, and fuel. Many burner brands meet different customers' requirements. For natural gas fuel, we

configure Riello, and for oil, we configure Baltur.
The burner brand: Baltur, Riello, Weishaupt, Hofamat, Honeywell, Ecoflam, Cavallo, and so on.

The burner is equipped with a microelectronic control box, which can provide burner operating status and diagnosis of fault causes.
The improvement of the performance of the fan and the combustion head increases the scope of application of the burner and ensures the combustion efficiency of each operating point.
The unique design reduces the overall size while providing ease of use and maintenance.

2) Water Treatment Device Technical Features

- Flow-type metering, automatic recoil
- New cloth structure, uniform water distribution, and stable water quality
- Resin tank made of glass fiber reinforced plastic, resistant to acid, alkali, and salt, high strength and stable quality
- The whole set of equipment uses tap water to dispense water without pump boosting, saving energy.

Feedwater Pump Features

- Compact structure and space-saving
- Stainless steel, acid and corrosion resistant
- China's well-known brands, well quality
- Dual configuration, mutual backup

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Energy Saver Features

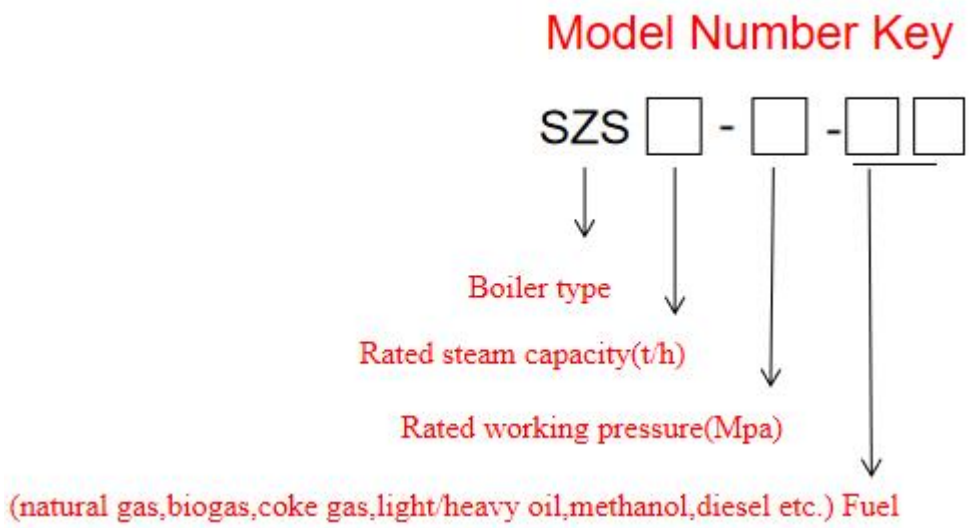
- ND steel material, acid and alkali resistant, durable
- Aluminum silicate insulation, high heat exchange efficiency
- Straight-through structure, less boiler back pressure

Steam Header Features

Remark: customizable

- Pressure container, national inspection, quality stability
- Output can be customized accprding to customer's requirement.
- Factory configuration does not contain relevant valves

Parameter of the Industrial Gas Fired Steam Boiler



Example:SZS10-1.25-Q.Y=SZS series steam boiler,Rated steam capacity 10t/h,rated working pressure 1.25Mpa(12.5bar),Fuel gas or oil;Q means gas,Y means oil

Model	SZS2-2.5-Q.Y	SZS4-2.5-Q.Y	SZS6-1.25-Q.Y SZS6-1.6-Q.Y SZS6-2.5-Q.Y	SZS10-1.25-Q.Y SZS10-1.6-Q.Y SZS10-2.5-Q.Y	SZS15-1.25-Q.Y SZS15-1.6-Q.Y SZS15-2.5-Q.Y	SZS20-1.25-Q.Y SZS20-1.6-Q.Y SZS20-2.5-Q.Y
Rated steam capacity(t/h)	2	4	6	10	15	20
Rated working pressure(Bar)	25	25	12. 5/16/25	12. 5/16/25	12. 5/16/25	12. 5/16/25

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Rated steam temperature(℃)	225	225	194/204/225	194/204/225	194/204/225	194/204/225
Feed water temperature ℃	20					
Boiler Main Body Heating Area(m²)	46.22	90.22	125.6	205.56	216.84	271.5
Energy Saver	23.3	35.8	63.4	132.2	273.6	411.2
Condenser Heating area(m²)	15	25.4	41.5	62.8	101.1	134.7
Fuel available	natural gas, biogas, coke gas, light oil, methanol, diesel etc.					
Fuel--Natural gas(m³)	144	288	432	720	1080	1440
Fuel--light oil（L）	124	244	372	620	930	1240
Thermal Efficiency(%)	>98					
Max Transportation Weight(t)	20.4	25	32	40	45	50.6
Max boiler shipping size:L×W×H(m)	5.70×1.97 ×3.60	5.76×4.10 ×3.70	8.00×3.60× 4.70	7.87×3.40× 3.40	8.90×3.90× 4.00	8.90×3.90× 4.00
Note: Parameter is for reference only, if any changes should follow the factory technical data.						

Model	SZS25-1.25-0.Y SZS25-1.6-Q.Y SZS25-2.5-Q.Y	SZS30-1.25-Q.Y SZS30-1.6-Q.Y SZS30-2.5-Q.Y	SZS35-1.25-Q.Y SZS35-1.6-Q.Y SZS35-2.5-Q.Y	SZS40-1.25-Q.Y SZS40-1.6-Q.Y SZS40-2.5-Q.Y	SZS50-1.25-Q.Y SZS50-1.6-Q.Y SZS50-2.5-Q.Y
Rated steam capacity(t/h)	25	30	35	40	50
Rated working pressure(Bar)	12.5/16/25				
Rated steam temperature(℃)	194/204/225				
Feed water temperature ℃	104				
Boiler Main Body Heating Area(m²)	285.24	392.34	436.12	450.2	570.48

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Energy Saver	471.2	471.2	504.8	610.6	1311.8
Condenser Heating area(m²)	168.3	252.4	252.4 458.0	252.4	500.3
Fuel available	natural gas, biogas, coke gas, light oil, methanol, diesel etc.				
Fuel--Natural gas(m³)	1800	2160	2520	2880	3600
Fuel--light oil（L）	1550	1860	2170	2480	3100
Thermal Efficiency(%)	>98				
Max Transportation Weight(t)	60	68.2	73.6	80.4	散件 15
Max boiler shipping size:L×W×H(m)	10.50×4.12×4.15	10.50×4.30×4.23	11.30×4.30×4.23	12.33×4.40×4.53	15.53×4.40×4.53
Note: Parameter is for reference only, if any changes should follow the factory technical data.					

Delivery Documents about Equipment

1.Boiler room design drawing
2.Boiler foundation drawing
3.Boiler body drawing
4.Boiler control system technical data
5.Boiler layout drawing
6.Valves& instruments drawing
7. Strength calculation data sheet
8. Certificate of Quality
9. Quality and Safety Inspection Certificates
10. Installation and operation instructions